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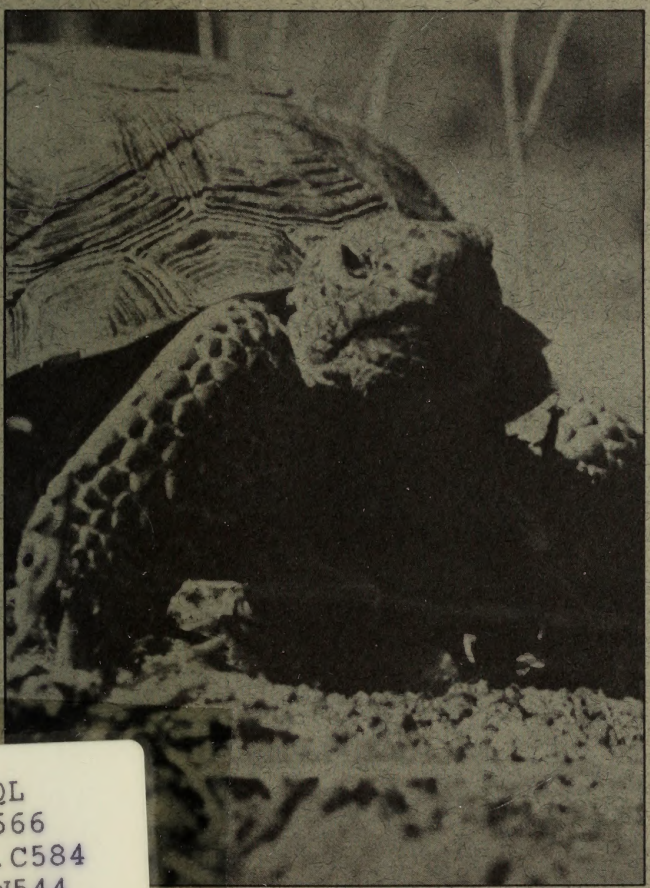
Will the Desert Tortoise Win the Race... For Survival?



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This brochure funded by:
California Department of Parks and Recreation
Off-Highway Motor Vehicle Program as part of
its cooperative environmental education efforts.

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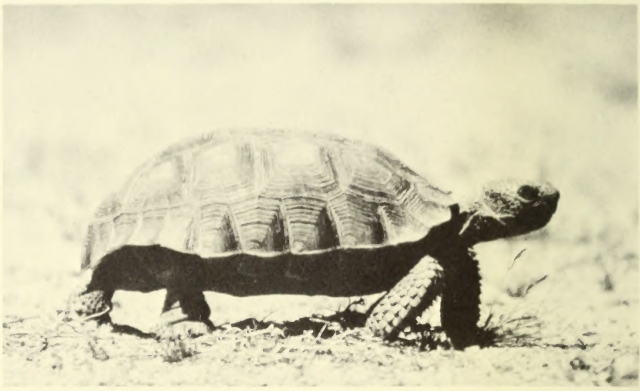
Everyone knows the slow-moving, steady going tortoise always beats the hare to the finish line. But now the desert tortoise is in a new race, a race for survival. Will he win, or is he slated for extinction? No one can answer that question yet, but we do know that you can help California's State Reptile in his struggle for survival.

Sixty-seven million years ago, the ancestor of today's desert tortoise roamed the world with the dinosaurs. But while changing climates spelled the end for the dinosaurs, this remarkable little creature adapted to the changes and survived.

His unique lifestyle allows him to live for long periods without water or food, through the cold of desert winters and the heat of desert summers. He's a peaceable little fellow, rarely aggressive. You'd think he would have few enemies, but unfortunately, he has so many that he is now a State and Federally listed "threatened" species.

The Bureau of Land Management, in coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game, wants you to know more about the delightful desert tortoise so that you can help him survive into the 21st century and beyond. Please take a few moments to read about him and to learn what you can do to help.

The Desert Tortoise...



The desert tortoise is California's official State reptile. Their high-domed shells, elephant-like legs, and sharp claws help them survive in the desert's rugged terrain.

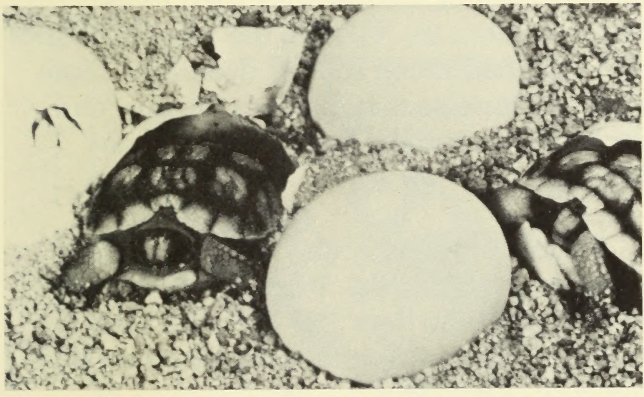
The desert tortoise is a seldom-seen inhabitant of the desert. Most visitors to the desert will never see a tortoise, but if you plan your visit at the right time of the year and day, and are very patient, you may well be rewarded by a view of one of these popular desert residents.

With their distinctive high-domed shell and elephant-like legs, the desert tortoise, called *Gopherus agassizii* by scientists, is easily distinguishable from his turtle cousins. Tortoises range in size from about 1.5 inches when they hatch from their eggs to 15 inches for a large, mature male. Their top shells are brown, gray, or black, with distinctive sections and growth lines, while the shell underneath is often lighter.

They can completely withdraw their head and stocky limbs within their shells, leaving only horny scales visible to potential predators. They have somewhat sharp claws on their feet to aid in digging their burrows and a very short tail.

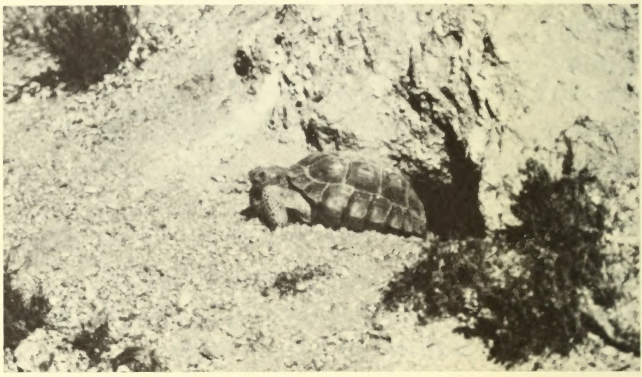
Males are distinguishable from females by their curved, longer *gular horns*, which protrude from their lower shells underneath their heads and necks. Males use the enlarged gular horns in combat with other males and for butting and nudging females during courtship. Males also have shallow depressions in their lower shells, while the female's lower shell is flat. Most people cannot tell a male from a female until the tortoise is about 20 years old or 8 inches in shell length.

Desert tortoises may live 50 to 100 or more years in the wild. Reproduction begins sometime between the ages of 12 and 20, with clutch sizes limited to 1 to 14 eggs. Following years of poor rainfall, females may lay no eggs or only a few. Nests are built and eggs laid in late spring or early summer, and the hatchlings appear in 70 to 120 days. Sometimes, the eggs don't hatch until the following spring.



In May or June, eggs are laid in a small hole dug by the female desert tortoise's hind legs. Hatchlings appear in 70 to 120 days and must survive on their own.

To escape the cold of winter and the temperature extremes of dry weather, tortoises live in burrows. Their summer burrows vary from 18 inches to 5 feet long, but may be only a few inches under the surface of the ground.



Desert tortoises live in both shallow, individual burrows, which shelter them from the summer sun, and in extensive communal winter burrows inhabited by up to a dozen hibernating tortoises.

Winter burrows are likely to be over 8 feet long (some are as long as 30 feet!), and may have 2-3 feet of soil covering their roofs. Burrows often are found at the bases of bushes and have half-moon shaped openings. More than one tortoise may live in a burrow, and each tortoise usually has more than one burrow.

Tortoises normally stay within a home range or activity area. Young tortoises may venture no more than 150 feet from their burrows, while older tortoises may have a network of burrows and can travel up to 3/4 mile in a single day.

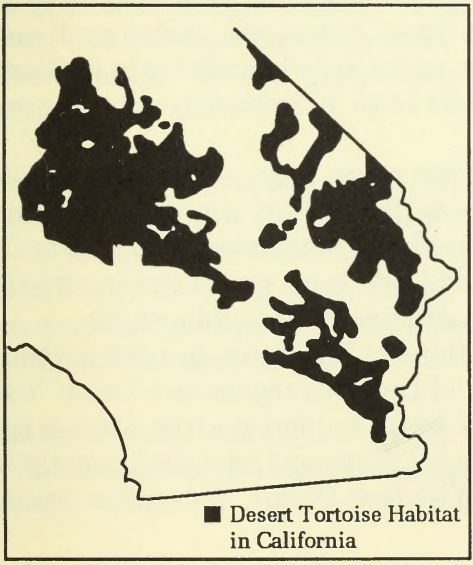
They mostly eat annual flowers, grasses, and cacti. They depend on bushes for shade and protection from predators such as ravens and coyotes.

These reptiles hibernate for up to 9 months each year, becoming most active from March through June, and September and October. Even when tortoises move about, they often restrict their activities to the cooler temperatures of early morning and evening.

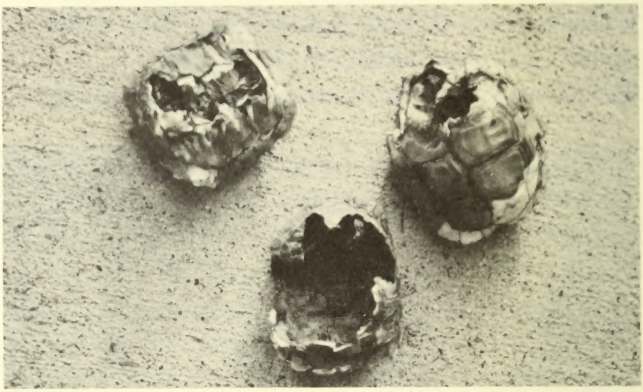
Finding tortoises is complicated further by the fact that in the densest concentrations in California, there may be no more than one tortoise every 2 1/2 acres; densities of one tortoise every 100 acres are far more common. One of your best opportunities to see a desert tortoise is to visit the Desert Tortoise Natural Area near California City during the spring. A naturalist should be on site to provide additional information and help you locate a tortoise.

The tortoise actually ranges across parts of four states: Arizona, Nevada, Utah, and California.

In California, desert tortoises are found in the Mojave and Colorado deserts, as indicated on the map below.



HURDLES IN THE RACE...



Tiny desert tortoises fall prey to many predators including the raven, which easily punctures through the thin shells of young tortoises.

Although the tortoise has been surviving in desert environments for millions of years, today he's facing a series of hurdles that are difficult for him to cross.

Rapid urbanization and the subsequent loss of habitat on private lands, people collecting tortoises for pets, road kills, vandalism, indiscriminate off-highway vehicle travel, increased predation, livestock grazing, and a long-term drought in Southern California have all impacted tortoise numbers.

In some areas, large numbers of tortoises are now suffering from diseases, probably introduced by pet tortoises returned to the wild. The first is an upper respiratory tract disease discovered in wild tortoise populations in California in 1988 at the Bureau of Land Management's Desert Tortoise Natural Area. Evidence of the disease has been found at several new sites, mostly in the western Mojave Desert. Extensive research is

being conducted to determine the cause and hopefully a cure for the disease, which appears to be fatal.

Also in 1988, a shell disease was discovered in the desert tortoise population located at Chuckwalla Bench. Surveys conducted in 1990 indicate as much as 50 percent of the population shows signs of the disease, which has now apparently spread to other populations as well.

In 1989, the status of the desert tortoise changed radically when it was listed by the U.S. Fish and Wildlife Service as an endangered species. After subsequent review, a "permanent" listing of the desert tortoise as a threatened species was made in 1990.

Under the provisions of the Endangered Species Act, anyone who "takes" a desert tortoise is subject to civil and/or criminal penalties of up to a $50,000 fine or 1 year in jail, or both. The law defines "taking" as harassing, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in such activities. The listing affects only wild populations, not tortoises already in captivity before August 4, 1989.

State laws also protect the desert tortoise. California listed the tortoise as a threatened species in 1989, though other laws provided protection long before that time. Captive tortoises must be licensed by the California Department of Fish and Game.

These State and Federal laws legally protect the tortoise on both public and private lands.

What BLM is Doing...

Established by BLM to provide protection and enhancement of habitat supporting the highest known densities of the desert tortoise, the Desert Tortoise Natural Area was dedicated in 1988.

In cooperation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game, the Bureau of Land Management is trying to reduce impacts to desert tortoises and their habitat on Public Lands. Every proposed activity on lands managed by BLM is closely reviewed, and special actions to protect the species and its habitat may be required.

Special management planning efforts are underway to emphasize protection of desert tortoise habitat. Four separate plans will be developed for the four primary tortoise habitat areas in the California Desert: the western Mojave, the Ivanpah-Shadow-Kelso, the Fenner-Chemehuevi valleys, and the Chuckwalla habitat areas.

Numerous research projects undertaken or funded by BLM will provide additional information about diseases and treatments, nutritional needs, health profiles, predators,

restoring damaged habitat, impacts from other desert users, and the effectiveness of tortoise-proof fencing and culverts.

BLM biologists monitor both tortoises and their habitat to assess population trends, available forage, and causes of tortoise deaths. Some tortoises may be closely tracked through the use of miniature radios to learn more about their lifestyles.

Over the past decade, BLM has made significant progress toward protecting and acquiring important habitat for the tortoise. Almost 17,000 acres have been purchased in the Desert Tortoise Natural Area and Chuckwall Bench. In the next few years BLM hopes to add an additional 56,000 acres in the Chuckwalla Bench and up to 3,300 acres in the Desert Tortoise Natural Area.

BLM and other cooperators have also undertaken a public education campaign to help Californians protect their State Reptile, including video programs for school children, public service announcements, brochures, displays, and other materials.

A friendly desert tortoise poses for a video camera at BLM's Desert Tortoise Natural Area.

What You Can Do...

Photo courtesy of John Gerlach

Youngsters learn about the State's official reptile at BLM's Desert Tortoise Natural Area near California City.

With all of the problems facing the tortoise, it needs all the help it can get. BLM is working with other agencies and private groups to protect the tortoise. **But we need *your* help!**

- If you find a tortoise in the desert, respect his privacy and space. You may take pictures, get down and look at it , but **do not** touch it or harass the animal.

- **Never** take a wild tortoise home for a pet. If you want a pet tortoise, call the California Turtle and Tortoise Club (we can provide you the number). You must also get a permit from the Department of Fish and Game to keep a tortoise.

- **Never** return a pet tortoise to the wild. It may not survive, and if it is sick, it could cause many other tortoises to die. Releasing a tortoise into the wild is a violation of the Endangered Species Act. If you can no longer keep the tortoise, the California Turtle and Tortoise Club will help you find a new home for him.

- Do not pick up a tortoise unnecessarily - when scared they empty their bladders (causing some people to drop them). This is moisture that they would have otherwise retained and used; its loss dehydrates the tortoise and could cause it to die.

- Drive slowly and alertly on desert roads so that you don't crush a tortoise. They often look like rocks or debris from a distance, so beware. Let him finish his travels across the road, or if you have plenty of room to pass, drive slowly and carefully around him.

- Stay on existing routes of travel so you don't crush a tortoise's burrow, the food that he eats, or the bush under which he is resting.

- If you see a tortoise on a busy road and you think he is in immediate danger, you should move him to safety. Approach him on foot from the front so he knows you're coming. Pick him up gently by placing your fingers under and thumbs on top of the tortoise's shell, grasping him on the sides. Keep your hands away from his head.

  Lift the tortoise slowly, keeping him level, as if he is in a walking position. Move him to a safe place no more than 100 yards away and in the same direction that he was traveling. Carefully set him down, preferably in the shade of a shrub, facing the direction he was headed when you found him. Don't twist him, shake him, turn him over, or play with him!

- If you're parked in the desert, check underneath your vehicle before driving away — you may find a tortoise enjoying the shade!

- If you find a dead tortoise, don't collect him. Even parts of dead tortoises are protected from "take" by the law. On study plots throughout the desert, BLM keeps track of tortoise deaths as well as living tortoises. We can often determine the cause of death from the shell and its location.

- If you see several small (2 to 6 inch) tortoise shells at one spot, report the location to the local BLM office. This may be evidence of a predatory raven.

- Report any vandalism, harassment, or collecting to your local BLM office or the California Department of Fish and Game's "CalTip" number: 1-800-952-5400.

- Please don't litter — tortoise predators such as the raven may be attracted to an area by trash, then may turn to eating tortoises.

- SPREAD THE WORD! Together, we can help the desert tortoise survive in the wild into the future!

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